

HW: check:

$$2) \quad \frac{3x}{8y} \cdot \frac{12y^2}{9} = \frac{xy}{2}$$

(Handwritten cancellation: 3x and 9 cancel to x and 3; 12y^2 and 8y cancel to 3y and 2; final result xy/2)

$$4) \quad \frac{4-2x}{2} \cdot \frac{x+2}{x^2-4} = \frac{-1}{1} = -1$$

(Handwritten cancellation: 4-2x = 2(2-x); x^2-4 = (x+2)(x-2); final result -1)

$$6) \quad \frac{x-2}{3x+3} \div \frac{x^2+2x}{x+2}$$

$$\frac{x-2}{3x+3} \cdot \frac{x+2}{x^2+2x} = \frac{x-2}{3(x+1)(x)} = \frac{x-2}{3x^2+3x}$$

(Handwritten cancellation: 3x+3 = 3(x+1); x^2+2x = x(x+2); final result (x-2)/(3x^2+3x))

8)

$$\frac{\cancel{a}}{\cancel{b}} \cdot \frac{\cancel{b}(a+b)}{\cancel{a}b + \cancel{b}^2} = \frac{a+b}{a-b}$$

$$\frac{2+4}{2-4} = \frac{6}{-2}$$

~~(-3)~~

10)

$$\frac{(w+8)\cancel{(w-3)}}{w^2+5w-24} \cdot \frac{(w+10)\cancel{(w-4)}}{w^2+6w-40} = \frac{(w+8)(w+10)}{(w+4)(w+7)}$$

$\cancel{(w-4)}(w+4)$ $(w+7)\cancel{(w-3)}$

12)

$$\frac{\cancel{(x+1)}(x+1)^2}{x^2-6x+9} \cdot \frac{\cancel{x-3}}{3x+3} = \frac{x+1}{3(x-3)}$$

$(x-3)\cancel{(x-3)}$ $3\cancel{(x+1)}$

$$\frac{w^2 + 1}{w^2 - 2}$$

$$\frac{1}{-2}$$

$$\frac{2^2 + 1}{2^2 - 2} = \frac{5}{2}$$